



# UNITED STATES PATENT AND TRADEMARK OFFICE

W X  
UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/591,508	06/12/2000	Masanori Chikuba	000736	3585
23850	7590	07/27/2004	EXAMINER	
ARMSTRONG, KRATZ, QUINTOS, HANSON & BROOKS, LLP			ROSE, ROBERT A	
1725 K STREET, NW			ART UNIT	PAPER NUMBER
SUITE 1000				
WASHINGTON, DC 20006			3723	

DATE MAILED: 07/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	09/591,508	CHIKUBA ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Robert Rose	3723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 4/28/04, 4/28/04, 4/30/04.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 2-5, 7, 9-12 and 15-17 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 2-5, 7, 9-12 and 15-17 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | Paper No(s)/Mail Date. _____ .  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>see item 6</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input checked="" type="checkbox"/> Other: <u>2/27/04, 4/30/04</u> .     |

## DETAILED ACTION

1. Receipt is acknowledged of Applicant's Prior Art Statements, filed February 27, 2004, and April 28, 2004, respectively.

2. Claims 1, 6, 8, and 13-14 have been canceled.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 2-5, 7, 9-12, and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kazuaki(Japan No. 10-296018) in view of Masao(Japan No. 10-175172) and further in view of EP 92309078. Kazuaki discloses a method of grinding a magnetic member comprising substantially all of the subject matter set forth in applicant's claims above. A magnetic workpiece(w) is ground by a grinding wheel(c) while grinding fluid is supplied to the grinding region of the work. The grinding fluid is drained from the region and passed through a magnetic separator(1) to remove magnetic sludge from the liquid. The remaining liquid passes through a sedimentation tank(6), and optional filters(2,3) before being circulated back to the grinding region. With regard to Applicant's third step, magnetic coagulation of the remaining magnetic particles in the liquid would be an inherent result of allowing the liquid to settle in the sedimentation tank, since particles of the workpiece are polarized and would naturally tend to agglomerate in the absence of agitation. Note separation of the heavier particles in

sedimentation tank(106) after passing through the magnetic separator(101), in the embodiment of figure 11 of Kazuaki. While Kazuaki is silent with regard to the composition of the grinding wheel, such superabrasive grinding wheels are known in the art for use in grinding high-hardness materials such as rare earth magnets, as evidenced by Masao et al. To simply incorporate a conventional resin/superabrasive grinding composition in the grinding wheel of Kazuaki, if such is not already disclosed therein, would have been obvious in view of Masao et al. EP 92309078 discloses a recycling means for a grinding apparatus having a sedimentation tank with a tortuous path formed by barrier plates(52). Note figure 2 showing plural horizontal baffles or barrier plates(52) forming a tortuous path which turns at least once by 90 degrees to slow the flow and allow sedimentation to proceed. To provide such horizontal barrier plates within the sedimentation tank in Kazuaki to slow the flow and allow sedimentation to proceed would have been obvious in view of EP('078). With regard to claim 3, the lower value of magnetic flux density for the magnetic separator is deemed to constitute no more than an obvious matter of design choice to those of ordinary skill in the art. With regard to claim 15, the rare earth magnet produced by the recited method appears no different than one produced by the prior art method, especially if one considers the obviousness of not recycling the waste material at all, and relies only upon fresh grinding fluid for the entire grinding process on a workpiece. The surface quality of the work would then not suffer as a result of recycling high-hardness swarf from previous workpieces.

5. Applicant's arguments filed April 28, 2004 have been fully considered but they are not persuasive. Applicant's new limitation of introducing the grinding fluid into a tank having a plurality of barrier plates, is deemed to be taught at least by EP 92309078.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication should be directed to Robert Rose at telephone number (703) 308-1360.

rr

July 23, 2004..



ROBERT A. ROSE  
PRIMARY EXAMINER  
ART UNIT 323